



Weather and notified Campylobacter infections in temperate and sub-tropical regions of Australia: An ecological study

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Abstract:

BACKGROUND: The relationship between weather and food-borne diseases has been of great concern recently. However, the impact of weather variations on food-borne disease may vary in different areas with various geographic, weather and demographic characteristics. This study was designed to quantify the relationship between weather variables and Campylobacter infections in two Australian cities with different local climatic conditions. **METHODS:** An ecological-epidemiological study was conducted, using weekly disease surveillance data and meteorological data, over the period 1990-2005, to quantify the relationship between maximum and minimum temperatures, rainfall, relative humidity and notifications of Campylobacter infections in Adelaide, with a temperate Mediterranean climate, and Brisbane, with a sub-tropical climate. Spearman correlation and time-series adjusted Poisson regression analyses were performed taking into account seasonality, lag effects and long-term trends. **RESULTS:** The results indicate that weekly maximum and minimum temperatures were inversely associated with the weekly number of cases in Adelaide, but positively correlated with the number of cases in Brisbane, with relevant lagged effects. The effects of rainfall and relative humidity on Campylobacter infection rates varied in the two cities. **CONCLUSION:** Weather might have different effect on Campylobacter infections in different cities. Further studies are needed for a better understanding of these relationships for they may indicate epidemiologic factors important for control of these infections.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Meteorological Factors, Precipitation, Temperature

Food/Water Quality: Pathogen

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban

Climate Change and Human Health Literature Portal

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Australasia

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Campylobacteriosis

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified